U.S. ENVIRONMENTAL PROTECTION AGENCY

ALTERNATIVE REMEDIAL
CONTRACT STRATEGY

REGIONS VI, VII, VIII

TASK WORK PLAN
SITE ASSIGNMENT SAMPLING PLAN
FOR
ON-SITE RECONNAISSANCE AND
COLLECTION OF ENVIRONMENTAL SAMPLES

CEDAR FALLS FMGP

CEDAR FALLS, IOWA
CERCLIS NO. IAD984571117

Approved
7/12/91

JACOBS ENGINEERING GROUP INC.
10901 WEST 84TH TERRACE, SUITE 210
LENEXA, KANSAS 66214
PROJECT NO. 10-D242-04

JULY 10, 1991

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JACOBS ENGINEERING GROUP INC.

ALTERNATIVE REMEDIAL CONTRACTS STRATEGY

REGIONS VI, VII & VIII

REMEDIAL PLANNING ACTIVITIES

AT

SELECTED UNCONTROLLED HAZARDOUS

SUBSTANCE DISPOSAL SITES

U.S. EPA CONTRACT NO. 68-W8-0122

IN ASSOCIATION WITH,

TERRACON CONSULTANTS EC, INC.

McCLELLAND ENGINEERS, INC.

U.S. ENVIRONMENTAL PROTECTION AGENCY

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TASK SUMMARY

SITE:	Cedar Falls FMGP East 12th Street Cedar Falls, Blackhawk County, Iowa	
CERCLIS NUMBER:	IAD984571117	
ARCS SITE MANAGER:	Bob Aston (Jacobs)	913-492-9218
ARCS ALTERNATE:	Mark Griffith (Jacobs)	913-492-9218
SITE ASSESSMENT MANAGER (SAM):	Pete Culver (EPA Region VII)	913-551-7707
STATE CONTACT:	Johanshir Golchin (Iowa Department of Natural Resources)	515-281-8925
SITE CONTACT:	Dean Crowe (Cedar Falls Utility Co.)	319-266-1761
DATES OF TASKS:	On-site reconnaissance :	June 19, 1991
	Sampling event :	July 30, 1991 (Tentative)
LOCATION OF NEAREST PHONE:	The phone number for the site contact is the nearest phone and is located on-site.	

INTRODUCTION

This document constitutes both the Task Work Plan (TWP) and the Site Assignment Sampling Plan (SASP) (TWP/SASP) for on-site reconnaissance and collection of environmental samples at the Former Manufactured Gas Plant (FMGP) located in Cedar Falls, Iowa. This document presents site-specific information and procedures to be used during field work at the site, in conjunction with information and procedures set forth in the generic Health and Safety Manual and the generic Quality Assurance Project Plan (QAPjP) developed for this work assignment and submitted under a separate cover.

SITE DESCRIPTION

The Cedar Falls FMGP was formerly located immediately west of the current location of the Cedar Falls Utility Company electric plant. Currently, a gas regulator building and smokestack are standing in the vicinity of the former FMGP site. The site is located in the northeast section of Cedar Falls, a small northeast Iowa city with a population of approximately 36,000 residents. The site is situated south of East 12th Street, east of the Chicago and Northwestern Railroad spur, and west of the electric plant. The time frame of coal gasification operations was approximately 1934 to 1954.

Substances which may be present on-site include those typically associated with coal gasification plants, such as coal tar sludges (with polycyclic aromatic hydrocarbon (PAH) constituents) and cyanide wastes. Although it is unknown whether any wastes were disposed on-site, it was common practice for such operations to bury wastes not sold for reuse in shallow trenches on-site. Quantities of waste generated during operation of the manufactured gas plant are unknown. However, an estimated quantity of 2,040,000 gallons of coal tar and waste

oil may have been generated, considering annual production rates, years of operation, and production processes (Browns Directory of American Gas Companies).

PREVIOUS WORK AT THE SITE

- A Potential Hazardous Waste Site Identification form was prepared by Ecology & Environment, Inc. Field Investigation Team (FIT) on July 19, 1990.
- A Preliminary Assessment was conducted at the site by Ecology & Environment, Inc. FIT on August 22, 1990.

TRIP OBJECTIVES

The tasks presented in this TWP/SASP constitute those necessary to conduct a Screening Site Inspection (SSI). These tasks include the completion of an on-site reconnaissance and collection of environmental samples. The objective of the on-site reconnaissance is to evaluate conditions at the site, to select (and mark if possible) sampling locations, identify potential pathways of contaminant migration, and identify any potential receptors in the area. The objective of the environmental sampling is to collect samples from potentially impacted media to determine whether a release of contaminants to the environment has occurred, or whether the potential for such a release exists at the site. The data obtained from the on-site reconnaissance and sample analysis data will be used to support a Hazard Ranking System (HRS) scoring, if applicable.

SITE HEALTH AND SAFETY CONCERNS

A site-specific Health and Safety Plan and the generic Health and Safety Manual have been developed for this project. These plans outline the contaminants of concern, the health and safety concerns, and the safety procedures which will be followed when personnel are on site. These two plans will be available to all on-site personnel before and during the site sampling visit. During the sampling visit, one team member will be designated as the health and safety coordinator. It will be the responsibility of the health and safety coordinator to ensure that the procedures and precautions outlined in these plans are followed in the field. At least 48 hours prior to any intrusive activities, the ARCS Site Manager shall contact Iowa One Call (1-800-292-8989) to inform utilities with underground lines or pipes of such activity.

ARCS SITE ASSESSMENT PERSONNEL

Personnel	Title/Responsibility
Bob Aston	ARCS Project Manager; Sampler 1
Mark Griffith	ARCS Site Manager; Site Health & Safety Coordinator; Sampler 2
Paul Kieler	Sampler 3
Susan Tuley	Sampler 4

TECHNICAL APPROACH

Field Logistics - Reconnaissance:

1. The reconnaissance will be conducted by the ARCS Site Manager and one other individual.

2. The ARCS Site Manager shall evaluate health and safety concerns at the site.

3. The reconnaissance team shall document site features and conditions as outlined below in the Procedures section.

4. The reconnaissance team shall identify sampling locations.

Procedures - Reconnaissance:

1. All field activities shall be conducted in accordance with the generic Health and Safety Manual, the site-specific Health and Safety Plan, the TWP/SASP, the generic Quality Assurance Project Plan (QAPjP), and applicable portions of Jacobs Standard Field Operations Procedures (SOPs) included as attachments to the generic QAPjP.

2. The reconnaissance team shall verify the location of the site on a USGS topographic map and/or aerial photograph, and verify the boundaries of the site with the site representative and any available maps.

3. Ambient air will be monitored in accordance with the site-specific Health and Safety Plan.

4. The reconnaissance team shall determine the location, condition, and approximate physical dimensions of site features, such as:

   - buildings and other structures,
   - paved areas, gravel areas, etc.,
   - source areas of contamination (e.g., waste piles, surface impoundments, leachfield, drum storage areas, tank farms, etc.),
   - containment features associated with potential source areas,
   - significant on-site areas or features (e.g., landfills, land treatment areas, disposal areas, fill material, excavated area, etc.),
   - staining, leachate breakout, stressed vegetation, etc.,
   - surface migration pathways,
   - storm drains, sumps, catchments, etc.,
   - monitoring wells,
   - site accessibility (e.g., fences, gates, guardhouse, signs, steep slopes, etc.),
   - the distance from the site to the nearest regularly occupied structure, and
   - the distance from the site to the nearest drinking water well or intake.

5. A site map will be sketched or updated, to identify pertinent site features, directions, distances, dimensions, etc. (Figure 1).

6. The reconnaissance team will select sample locations based on site conditions. Locations of any background samples shall also be identified. Final sampling locations will be documented on the site map and on sample field sheets.

7. Sample strategy decisions and rationale shall be documented, and are presented in Attachment 1.

Field Logistics - Sampling:

1. The environmental sampling will be conducted by a maximum of four field team members.

2. The field team shall establish a field operations station, decontamination area, and sample preparation station. This station will be set up in an area that does not affect the normal day-to-day on-site activities. This station will be situated upwind of any source areas which may be identified.

3. The Site Health and Safety Coordinator shall evaluate health and safety concerns at the site, calibrate air monitoring instruments, and monitor ambient air in accordance with the site-specific Health and Safety Plan.

4. The ARCS Site Manager and one other individual shall complete site reconnaissance activities. The additional samplers shall decontaminate sampling equipment and prepare for sampling.

5. Samplers will collect, handle, store, and ship all environmental samples according to procedures outlined in both the following Procedures section and the generic QAPjP. The Site Manager, or another member of the sampling team, will document field activities in the site-specific logbook (including photo documentation), and assist when necessary with sample handling and equipment decontamination.

Procedures - Sampling:

1. All field activities shall be conducted in accordance with the generic Health and Safety Manual, the site-specific Health and Safety Plan, the site-specific TWP/SASP, the generic QAPjP, and applicable portions of Jacobs SOPs (included as attachments to the generic QAPjP). These documents have been submitted and reviewed by EPA under separate cover.

2. Attachment 1 presents sample locations, matrix, depth and rationale for sample collection. Attachment 2 presents the Site Sample Analysis Summary, including sample locations, analytes, holding times, preservation methods, required sample volumes, and sample containers.

3. Environmental samples to be collected at the Cedar Falls FMGP shall be analyzed for:

Matrix	Analysis
soil/sediment	volatile organic compounds (VOCs) semi-volatile organic compounds total metals cyanide
groundwater	volatile organic compounds (VOCs) semi-volatile organic compounds total metals cyanide

4. Samples shall be analyzed through the Contract Laboratory Program (CLP), through coordination with the EPA Region VII Laboratory. All quality assurance objectives for analytical data and field measurements are outlined in Section 4.0 of the generic QAPjP.

5. Quality assurance samples shall be collected in accordance with the generic QAPjP. These samples are outlined in the Sample Rationale Table and the Sample Analysis Summary Tables (Attachment 1 and 2).

6. Methods to be used for the collection of environmental samples are provided in the following section.

SITE ASSIGNMENT SAMPLING PLAN

Soil Samples:

Soil Sample Rationale

Since no areas of suspected waste burial are known, sample locations were selected in areas where the greatest possibility of spillage or leakage from former storage structures exists. The tentative sample locations presented in Figure 1 were selected because they are located in areas where coal tars from the gasification process were either stored or transported. The final sample locations will be determined in the field and will be dependent on the presence of any underground utility lines (gas, electric and water) located on site. During subsequent construction on-site, the Cedar Falls Utility Company has installed several additional utility lines in the approximate area of the former coal gasification plant. Cedar Falls Utility Company has supplied site drawings depicting the location of all on-site utilities. Sample locations will be selected in areas free from underground utilities and in areas of undisturbed soil. All utilities will be located by Cedar Falls Utility Company personnel prior to any intrusive activities.

A total of eleven (11) soil samples will be collected at the Cedar Falls FMGP. This number includes one duplicate sample. Five (5) will be surface soil samples and five (5) will be subsurface soil samples. The subsurface soil samples will be collected at a depth of approximately four (4) feet. The depths of the subsurface soil samples may vary depending on types of soil encountered and whether any obstructions are encountered in the subsurface (large rock or broken concrete).

Figure 1 presents a site sketch with tentative soil sample locations. Since none of the structures associated with the former coal gas plant are presently standing, the former locations of these structures must be estimated while on site. Blueprints have been supplied by the Cedar Falls Utility Company; these blueprints depict the location of the former coal gas plant structures in relation to present day structures. The field team will use these blueprints in the field to determine the approximate locations of the former coal gas plant.

Surface Soils

The ground surface at the Cedar Falls FMGP is covered with a veneer of gravel and cinders. Prior to sampling, the sample locations will be flagged. The surface veneer of cinders and gravel will be removed with a shovel until the upper soil horizon is uncovered. An area approximately 18 inches square will be cleared in preparation of sampling. Surface soil samples will be collected from the upper six inches of the surficial soils. Soils will be collected in accordance with Jacobs SOP No. 20 provided in the generic QAPjP. All samples will be collected using stainless steel sampling utensils. Any sample collected for volatile organic analysis will be collected directly into two 40 ml VOA vials.

Subsurface Soil Samples

The sampling area will be cleared of gravel and cinders as discussed for surface soil sampling. If a surface soil sample is scheduled at the same location as a subsurface soil location, the surface soil sample will be collected first. To collect the subsurface soil sample, a hand auger (Jacobs SOP No. 20) will be utilized to core through the soil to the appropriate depth (approximately 4 feet). The removed soils will be placed on plastic sheeting for subsequent refilling of the sample hole. The hand auger will be advanced just above the desired sample

depth. The auger will then be advanced to the appropriate sample depth and pulled to the surface to collect soils from the auger. Soil collected from the auger will be placed in a stainless steel bowl for mixing and then placed in appropriate sample containers for shipment to the laboratory. Any sample collected for volatile organic analysis will be collected directly into two 40 ml VOA vials.

Groundwater Samples:

Groundwater Sample Rationale

Two groundwater samples and one duplicate sample will be collected. One sample will be collected from the on-site process well and one sample from a downgradient municipal water supply well. These wells will be sampled to address the potential of groundwater contamination due to coal tar wastes. Both wells are completed in the same water bearing zone.

Procedures used to collect groundwater samples from these wells will be in accordance with Jacobs SOP No. 25, provided in the generic QAPjP.

SAMPLE PACKAGING AND SHIPMENT

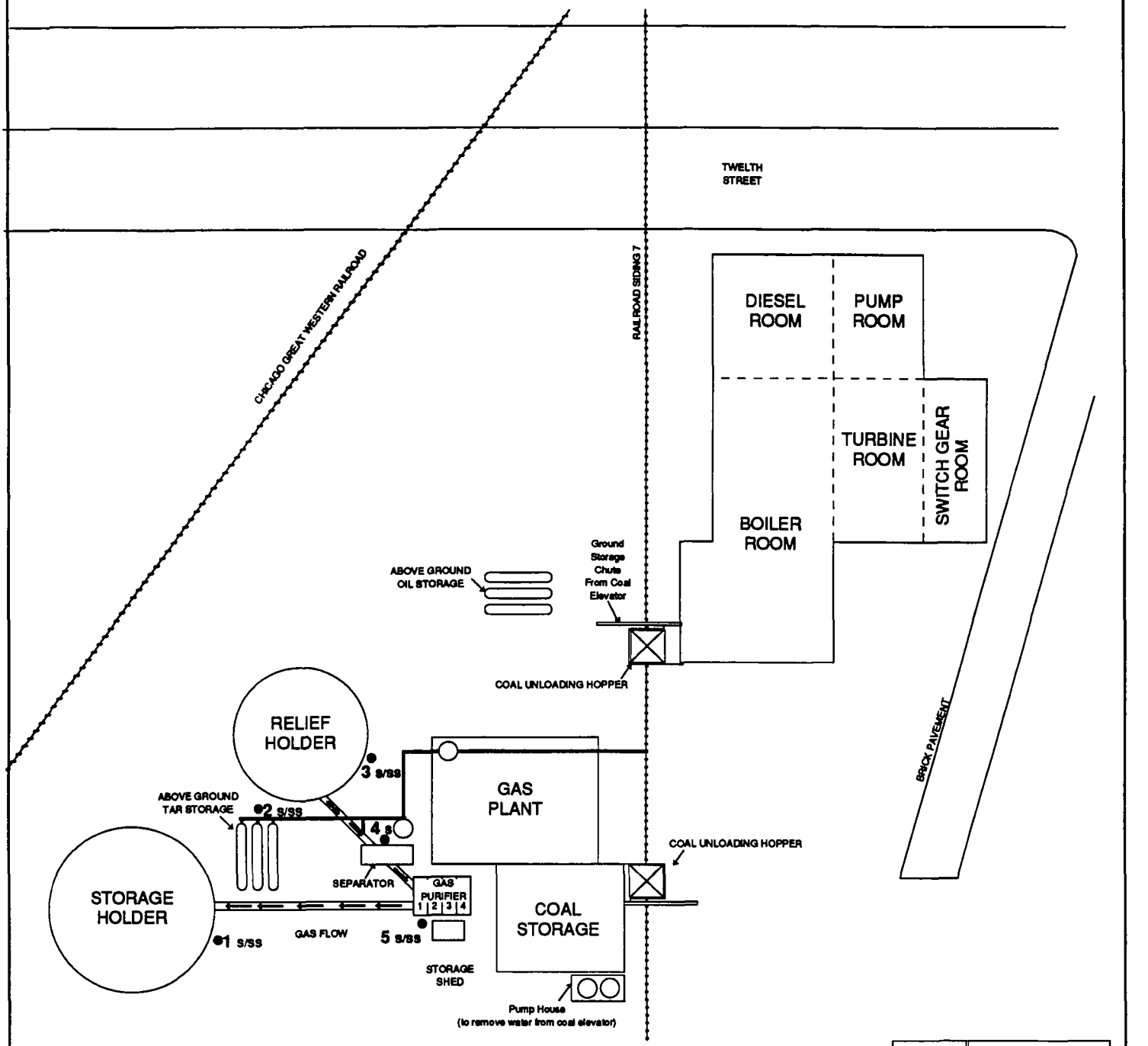
All samples will be packaged and shipped according to guidelines outlined in the generic QAPjP. Sample bottles and sample preservation precautions are as outlined in Attachment 2 of this document.

DECONTAMINATION

Decontamination of personnel and equipment will be conducted in accordance with the generic Health and Safety Manual, the site-specific Health and Safety Plan, and the site-specific SASP. It is anticipated that less than five gallons of decontamination fluids will be generated during the sampling event. Permission was obtained from site representatives to dispose of decontamination fluids on-site. Documentation of permission to dispose of decontamination fluids is contained in the access agreement signed by the property owner. It is anticipated that sampling activities will be conducted in modified Level D due to the low potential to exposure to contaminated media at this site. Since modified Level D will be utilized on-site, no contaminated tyveks will be generated. It is anticipated that potentially contaminated trash which may be developed will be limited to materials associated with decontamination activities (paper towels) and gloves used during sampling. In an effort to reduce potentially contaminated trash, the ARCS contractor will utilize reusable gloves capable of being decontaminated whenever possible. Any material that is determined to be contaminated will be disposed of as outlined in the generic Health and Safety Plan.

DOCUMENTATION

Documentation of field activities, sample tracking, and custody procedures are outlined in Section 9.0 of the generic QAPjP.



LEGEND

- ● Sample Locations
- S Surface Sample
- SS Subsurface Sample

Background Sample Locations to be chosen in the field

Note: No Structures associated with the former coal gasification plant are presently standing

FIGURE DESCRIPTION: SAMPLE LOCATION MAP			WORK ASSIGNMENT NO.
SITE NAME/LOCATION: PA/SSI CEDAR FALLS, IOWA			JACOBS PROJECT NO. 10-D242-04
JACOBS ENGINEERING GROUP INC.			ARCS
DRAWN BY: DJK	DATE: 7/1/91		FIGURE NO. 1
CHECKED BY: BA	DATE: 7/1/91		

Attachment 1
Cedar Falls FMGP
Sample Rationale

Matrix Soil:

Location	Depth	Rationale
1S	surface	storage holder - potential area for spillage and leakage
1SS	subsurface (4')	storage holder - potential area for spillage and leakage
2S	surface	tar storage tank - potential area for spillage and leakage
2SS	subsurface (4')	tar storage tank - potential area for spillage and leakage
3S	surface	relief holder - potential area for spillage and leakage
3SS	subsurface (4')	relief holder - potential area for spillage and leakage
4S	surface	gas separation - potential area for spillage and leakage
5S	surface	gas purifier - potential area for spillage and leakage
5SS	subsurface (4')	gas purifier - potential area for spillage and leakage
6BKG	surface	background sample for quality assurance
2DUP	surface	duplicate for quality assurance
Matrix Water:		
W1	groundwater	address potential of groundwater contamination
W1DUP	groundwater	groundwater duplicate for quality assurance
Trip Blank	water	quality assurance
Field Blank	water	quality assurance
Rinsate Blank	water	quality assurance

ATTACHMENT 2
CEDAR FALLS FMGP
CERCLIS NO. IAD984571117
SAMPLE ANALYSIS SUMMARY FOR SURFACE (S) AND SUBSURFACE SOILS (SS)

ANALYTICAL PARAMETER	TOTAL METALS & CYANIDE (RAS)	VOLATILES ORGANICS (RAS)	SEMI-VOLATILES ORGANICS (RAS)	TOTAL METALS RINSATE (RAS)	SEMI-VOLATILES RINSATE (RAS)	CYANIDE RINSATE (RAS)	VOLATILE ORGANICS RINSATE (RAS)	
CONCENTRATION LEVEL	Low	Low	Low	Low	Low	Low	Low	
PACKAGING LEVEL	Low/Medium	Low/Medium	Low/Medium	Low	Low	Low	Low	
PRESERVATION	Cool to 4°C	Cool to 4°C	Cool to 4°C	Nitric Acid to PH<2 Cool to 4°C	Store In Dark Cool to 4°C	NAOH to PH<12		
TECHNICAL HOLDING TIME	6 months (except mercury 28 days)	14 days (except aromatics, 7 days)	7 days for ext-raction; 40 days thereafter	6 months (except mercury 28 days)	7 days for ext-raction; 40 days thereafter	24 days if sulfide is present otherwise 14 days ***	Place in cubi with activated carbon, Cool to 4°C	
REQUIRED SAMPLE VOLUME	Container completely full	Container completely full NO HEADSPACE	Container completely full NO HEADSPACE	Container completely full	Container completely full	Container completely full	Container completely full NO HEADSPACE	
SAMPLE IDENTIFICATION	No. of 8 oz. wide mouth glass jars	No. of 40 ml VOA vials	No. of 8 oz. wide mouth glass jars	No. of 1-L Cubitainers	No. of 80 oz. Amber Glass with PTE Cap	No. of 1-L Cubitainers	No. of 40 ml VOA vials	TOTAL No. of Containers
1S	1	2	1					4
1SS	1	2	1					4
2S	1	2	1					4
2SS	1	2	1					4
3S	1	2	1					4
3SS	1	2	1					4
4S	1	2	1					4
2sDUP	1	2	1					4
5BKG	1	2	1					4
RINSATE BLANK (1)				1	1	1	2	5
TOTAL	9	18	9	1	1	1	2	41

* EPA Region 7 has requested that the ARCS contractor supply sample containers for the site property owner for split samples.

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ATTACHMENT 2
CEDAR FALLS FMPG
CERCLIS NO. IAD984571117
SAMPLE ANALYSIS SUMMARY FOR GROUNDWATER SAMPLES (W)

ANALYTICAL PARAMETER	TOTAL METALS (RAS)	VOLATILE ORGANICS (RAS)	SEMI-VOLATILE ORGANICS (RAS)	CYANIDE (RAS)	
CONCENTRATION LEVEL	Low	Low	Low	Low	
PACKAGING LEVEL	Low	Low	Low	Low	
PRESERVATION	Add Nitric Acid to PH<2 cool to 4°C	Place in a cubi with activated carbon cool to 4°C	Store in dark cool to 4°C	cool to 4°C NAOH to PH<12	
TECHNICAL HOLDING TIME	6 months (except mercury 28 days)	14 days (except aromatics, 7 days)	7 days for ext-traction; 40 days thereafter	24 hrs. if sulfide is present otherwise 14 days ***	
REQUIRED SAMPLE VOLUME	Container completely full	Container completely full NO HEADSPACE	Container completely full	Container completely full	
SAMPLE IDENTIFICATION	No. of 1-L Cubitainers	N0. of 40 ml VOA vials	No. of 80 oz Amber Glass with PTE Cap	No. of 1-L Cubitainers	TOTAL No. of Containers
W1	1	2	1	1	5
W1DUP	1	2	1	1	5
W2	1	2	1	1	5
TRIP BLANK		2			2
FIELD BLANK	1	2	1	1	5
TOTALS	4	10	4	4	22

* EPA Region 7 requested that the ARCS contractor supply sample containers for the site property owner for split samples.

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